Milestone
Contractors, L.P.

FIELD EVALUATION OF POROUS ASPHALT PAVEMENT

Final Report
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16. Abstract
This report summarizes the construction and early performance of a field trial of a Porous Friction Course (PFC) in Indiana. The PFC is compared to an adjacent section of Stone Matrix Asphalt (SMA) constructed at the same time using the same binder, coarse aggregate and fiber. Those mixes are also compared to a similar conventional Hot Mix Asphalt (HMA) surface constructed one to two months earlier. This evaluation shows that the PFC produces significantly lower noise levels than the HMA and SMA as measured by both the pass-by and close-proximity methods. The SMA produces higher noise levels than the HMA. The PFC also had the highest surface texture, as measured by the Circular Texture Meter; the HMA had the lowest texture. Data from the Circular Texture Meter and Dynamic Friction Tester were combined to determine the International Friction Index (FN_{60}). The PFC provided the highest friction value, followed by the SMA. Both the PFC and SMA had substantially higher friction values than the HMA even though they were tested before opening the road to traffic. The friction values for the PFC and SMA are expected to increase after traffic wears away the binder film coating the protruding aggregate particles. The PFC also reduced splash and spray and improved visibility during rain events, as observed qualitatively. Long term performance of the PFC should be monitored to determine how long these benefits last, but initially the PFC appears to offer an efficient and economical way to reduce noise and maintain or even improve friction and visibility.

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